



OPERATIONAL TRAFFIC MANAGEMENT PLAN

Mackillop Catholic College
91 Sparks Road, Woongarra

Reference: 23.196r05v04
Date: July 2025

Suite 2.08, 50 Holt St
Surry Hills, NSW 2010

t: (02) 8324 8700
w: www.traffix.com.au

DOCUMENT VERIFICATION

Job Number	23.196r05			
Project	Mackillop Catholic College			
Client	Catholic Schools Broken Bay			
Revision	Date	Prepared By	Checked By	Signed
v04	24/07/25	Stephan Hoang	Thomas Yang	

CONTENTS

1. Introduction	1
2. Traffic Management Objectives	2
2.1 Overview	2
2.2 Central Coast Council Comments	2
2.3 OTMP Objectives	3
3. Background Information	4
3.1 Site and Location	4
3.2 Road Network	7
3.3 Sustainable Transport	10
4. Overview of Site and School Operation	15
4.1 School Hours of Operation	15
4.2 Projected School Population	15
4.3 Parking Areas	16
4.4 Servicing and Delivery Areas	18
4.5 Out of School Hours Care (OOSH)	18
4.6 Church Operations	18
5. Site Management	19
5.1 Layout	19
5.2 Pedestrian Routes	19
5.3 Management	19
5.4 Procedure for Parents	22
5.5 Contingency Measures	26
6. Impacts and Sustainability	27
6.1 Traffic Impacts	27
6.2 Sustainable Transport Measures	27
7. Monitoring and Review	29
7.1 Data Collection and Monitoring	29
7.2 Coordinator Role	29
7.3 Internal Review Process	29
7.4 Complaints Management System	30
8. Conclusion	31

Appendices

Appendix A: Reduced Plans

Appendix B: Kiss and Drop Assessment

1. INTRODUCTION

TRAFFIX has been commissioned by Catholic Schools Broken Bay to prepare an Operational Traffic Management Plan (OTMP) for Mackillop Catholic College, located at 91 Sparks Road, Woongarra.

The OTMP has been prepared in response to Central Coast Council's request for information during the assessment of Development Application (DA) Number DA/1200/2024 which involves staged upgrades to the existing MacKillop Catholic College to facilitate increased student capacity of the school campus. Reference should also be made to the Traffic Impact Assessment (Reference: 23.196r01v05 dated 15 July 2024) which accompanied the DA Application as well as the subsequent Addendum (Reference 23.196r02v03 dated 1 April 2025) prepared to address the Regional Planning Panel (RPP) and Council comments during their first round of assessment.

This OTMP refers to a set of drawings prepared by Stanton Dahl Architects, presented in **Appendix A**, which are expected to undergo minor refinements as necessary to address any further comments from the RPP or Council during the assessment process.

The management procedures described in this report are to be implemented by the school for the life of the development and are to be reviewed bi-annually, with updates made as necessary to reflect changes in school operations, surrounding road conditions, or parking availability.

The report is structured as follows:

- Section 2: Describes the planning context of these works.
- Section 3: Provides an overview of the site and school.
- Section 4: Describes the site management measures.
- Section 5: Assesses the impacts of the development and addresses sustainability.
- Section 7: Discusses monitoring and review measures.
- Section 8: Presents the overall study conclusions.

2. TRAFFIC MANAGEMENT OBJECTIVES

2.1 Overview

The target audience of this plan are Mackillop Catholic College and Central Coast Council. In order to achieve best outcomes and adapt to changes to pedestrian, parking, and traffic movements within the school, the OTMP will continue to be a live document which can be monitored and updated should any changes be required. The aim of the bi-annual review is to monitor the operation of the car park and school traffic management arrangements and identify areas in need of improvement, if required. This OTMP could also be updated to address any condition of consent following the determination of the application.

2.2 Central Coast Council Comments

As mentioned above, on the 23rd May 2025, the Central Coast Council requested further clarification on additional matters of DA/1200/2024. For ease of reference, Council's comments relating to traffic and parking have been reproduced below:

Traffic Parking and Access

Regarding Traffic Impact Assessment Addendum, dated 2 July 2025 to following comments are made:

- 1. The existing drop-off and pick-up parking facility off Mataram Road should closed off and designated for staff parking only.*
- 2. The unsealed part of the overflow car park be sealed and formalised with additional parking line marked and relocate the drop-off and pick up parking within the overflow carpark/school carpark and appropriate pedestrian linkages be provided between the school entry and the pick-up/drop-off parking area.*
- 3. Develop a traffic management plan for the drop-off and pick-up hours for efficient utilisation of the drop-off/pick-up bays.*

This OTMP seeks to address items 1 and 3 in Council's RFI, whilst item 2 is to be separately addressed by:

- Preparation of a 'concept' parking overlay demonstrating that an 80-space parking area can be accommodated in the existing overflow parking off Tennison Woods Close
- Request that the formalised and sealed overflow car park be provided as condition of development consent, per the requirements of Australian Standard AS/NZS 2890.1

2.3 OTMP Objectives

The primary objectives of the MacKillop Catholic College OTMP are as follows:

- Improve car parking management and operation;
- Improve the safety of staff, parents, students, and the public impacted by traffic during operations;
- Manage the safe and efficient drop-off and pick-up activities associated with school operations; and
- Minimise traffic and parking impacts on the local road network.

3. BACKGROUND INFORMATION

3.1 Site and Location

The subject site is located at 91 Sparks Road, Woongarra and is commonly known as MacKillop Catholic College. The site is situated on the northwest corner of the intersection of Sparks Road and Mary MacKillop Drive. In a regional context, it is located approximately 2-kilometres north-east of Warnervale Railway Station.

The site has an irregular configuration with a total site area of approximately 9.4ha. It has a southern frontage of approximately 231 metres to Sparks Road, a northern frontage of approximately 231 metres to Mataram Road. It has an eastern boundary to Tenison Woods Close and Mary MacKillop Drive, and a western boundary to future residential developments.

The existing school campus is configured with a total of four (4) access driveway as follows:

- Separate entry and exit driveways off Tenison Woods Close; and,
- Separate entry and exit driveways off Mataram Road.

A Location Plan is presented in **Figure 1**, with a Site Plan presented in **Figure 2** which provide an appreciation of the general character of roads and other key attributes in proximity to the site.



Figure 1: Location Plan



Figure 2: Site Plan

3.2 Road Network

The road hierarchy in the vicinity of the site is shown in **Figure 3** with the following roads of particular interest:

- Sparks Road: a TfNSW Main Road (MR 509) that generally runs in an east-west direction between the Pacific Highway in the east and Hue Hue Road in the west. In the vicinity of the site, it is subject to a 70km/h speed zoning and provides a two (2) traffic lane in each direction with additional lanes provided at the intersection with Mary MacKillop Drive to accommodate turning movements. Kerbside parking is generally prohibited along both sides of Sparks Road within the vicinity of the site.
- Mary MacKillop Drive: a local road that generally runs in a north-south direction between the Satinwood Road in the north and Sparks Road in the south. In the vicinity of the site, it is subject to a 50km/h speed zoning, with 40km/h speed zoning during school zone times and provides a single lane of traffic in each direction. Unrestricted kerbside parking is generally permitted along both sides of Mary MacKillop Drive north of Noble Court within the vicinity of the site.
- Mataram Road: a local road that runs in an east-west direction between Hiawatha Road in the east and ending in a cul-de-sac in the west. In the vicinity of the site, it is subject to a 50km/h speed zoning with 40km/h speed zoning during school zone times and provides a single lane of traffic in each direction. Unrestricted kerbside parking is generally permitted along both sides of the road.

- **Tenison Woods Close:** a local road that runs in a north-south direction between Mary MacKillop Drive in the south and ending in a cul-de-sac in the north. In the vicinity of the site, it is subject to a 50km/h speed zoning with 40km/h speed zoning during school zone times and permits two-way traffic movements. "Kiss and Drop" permitted along the western side of the road, along the frontage of the school.

The site is conveniently located with respect to the local and arterial road systems serving the region, with connections to the east and west via Sparks Road.

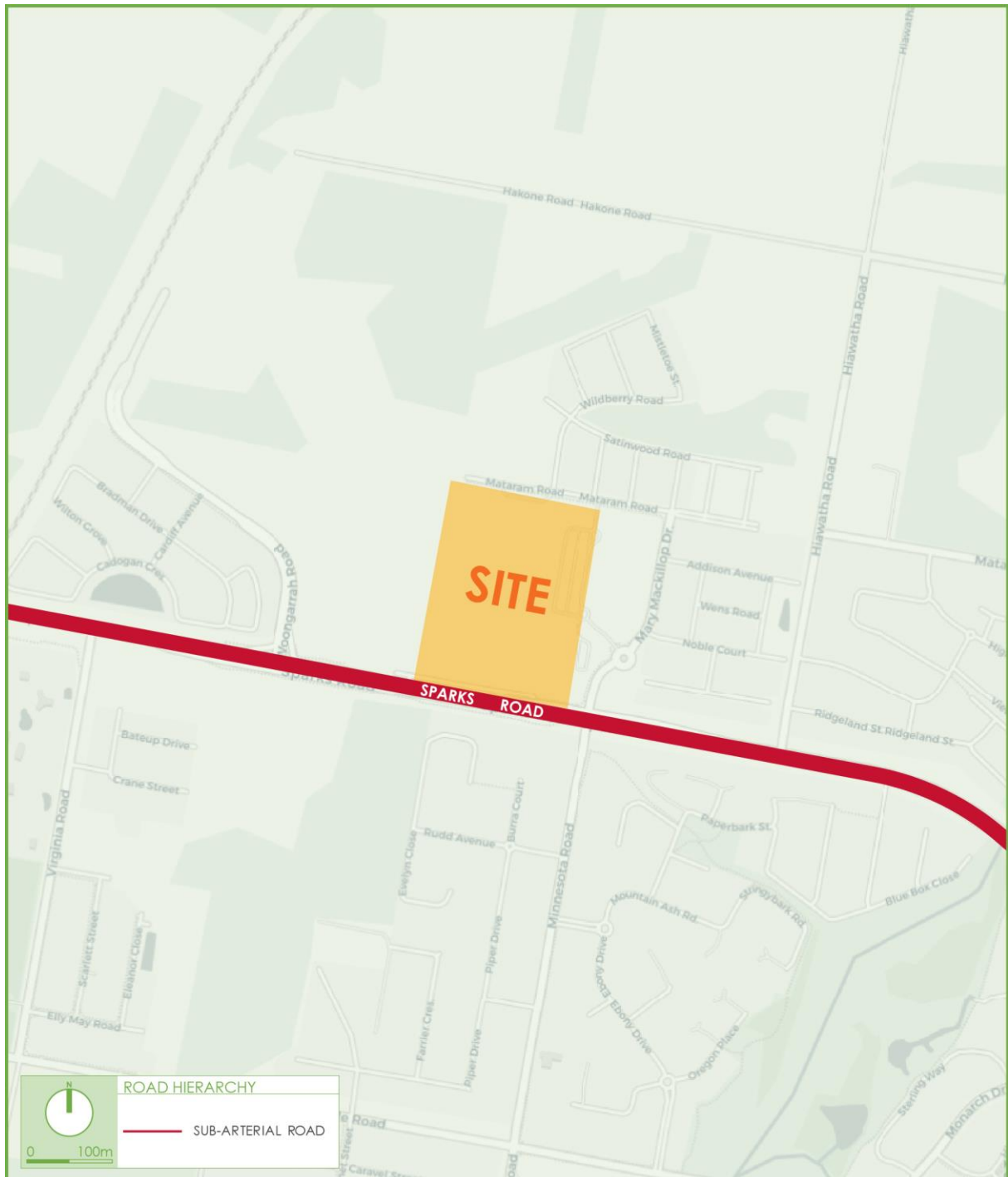


Figure 3: Road Hierarchy

3.3 Sustainable Transport

3.3.1 Public Transport Services

The existing public transport services operating within 400m of the school are presented in **Figure 4**, with the bus routes and weekday service frequencies summarised in **Table 1** below.

Table 1: Bus Routes and Weekday Service Frequency

Bus No.	Route	Service Frequency
11	Lake Haven to Tuggerah via Warnervale	Limited to 12 services
21	The Entrance North to Gosford via Bateau Bay East	Every 30 minutes
29	Bay Village to Wyong Hospital via Lake Haven	Limited to 7 services
78	Tuggerah to Lake Haven via Wadalba & Warnervale	Every 1 hour
79	Lake Haven to Tuggerah via Woongarah, Hamlyn Terrace & Wattanobi	Every 30 minutes

3.3.2 School Bus Services

The bus services listed in **Table 1** all provide direct access to the school and utilise the onsite bus stop infrastructure during the school peak periods.

3.3.3 Pedestrian/Bicycle Facilities

The site is ideally located with respect to pedestrian facilities in the locality as shown in **Figure 8**. Footpaths surrounding the site are paved and pedestrian crossing facilities are provided at key locations with respect to access points into the site. The existing pedestrian infrastructure also provides good connections to nearby public transport options.

In addition to the various walking routes, the site is also located within proximity to on-road bicycle routes which can be utilised by staff and students. Noting children under the age of 16 years can legally ride on footpaths in accordance with NSW Road Rule 250.

3.3.4 School Zones and Crossings

The surrounding roads of the school are generally subject to 40km/h speed zoning, with the location of the formal 'School Zones' applicable at 8:00am-9:30am and 2:30pm-4:00pm on school days summarised below:

- Mary MacKillop Drive between Sparks Road and Mataram Road; and,
- Mataram Road from the western end of the road to Mary MacKillop Drive.

3.3.5 Pedestrian Accesses

The school provides five (5) pedestrian entry and exit points as presented in **Figure 5** and as summarised below:

- Two (2) x pedestrian access on Tenison Woods Close, one (1) near the pedestrian crossing and two (2) near the two (2) vehicle access driveways; and,
- Two (2) x pedestrian access on Mataram Road, alongside the two (2) access driveways.

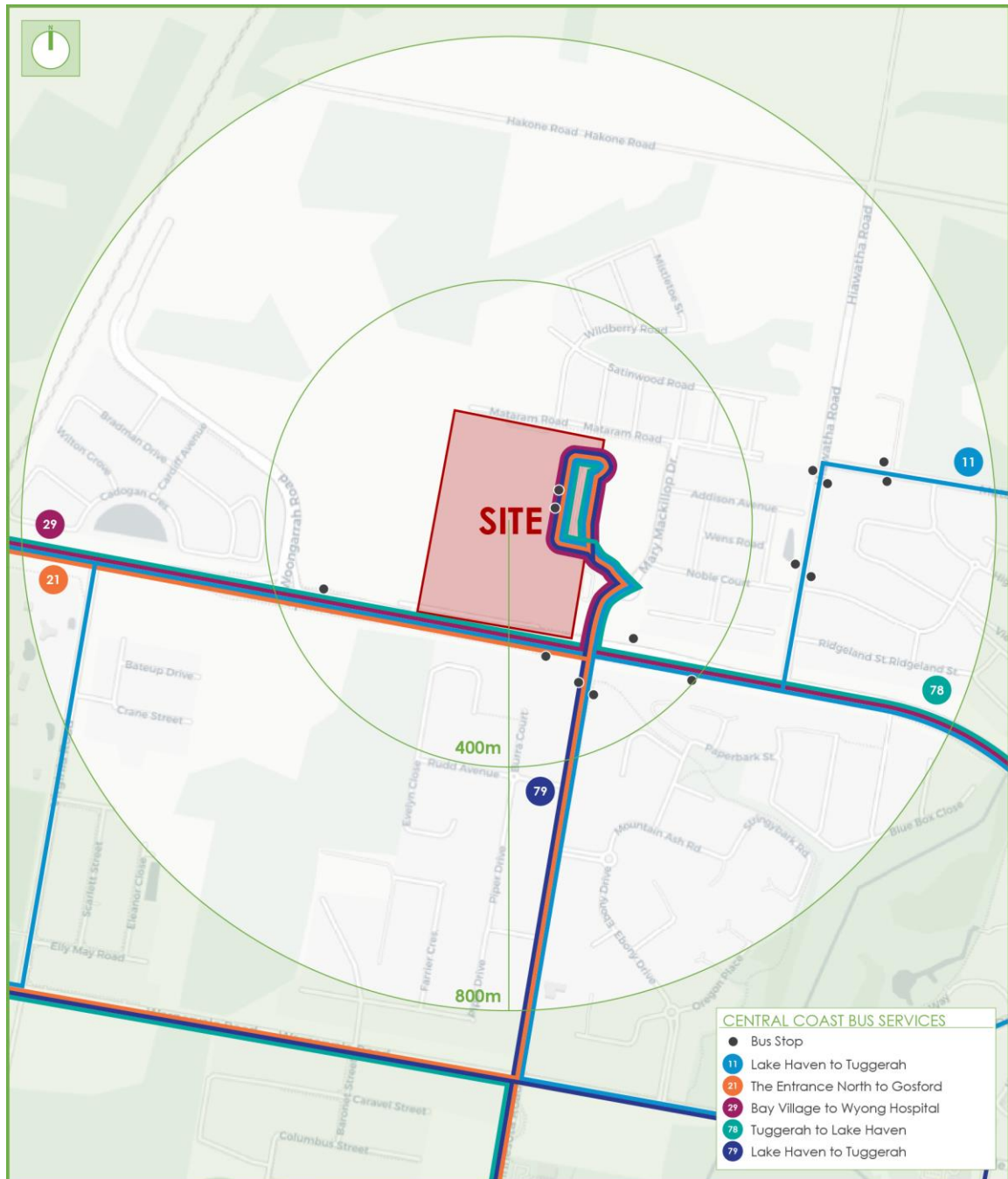


Figure 4: Public Transport

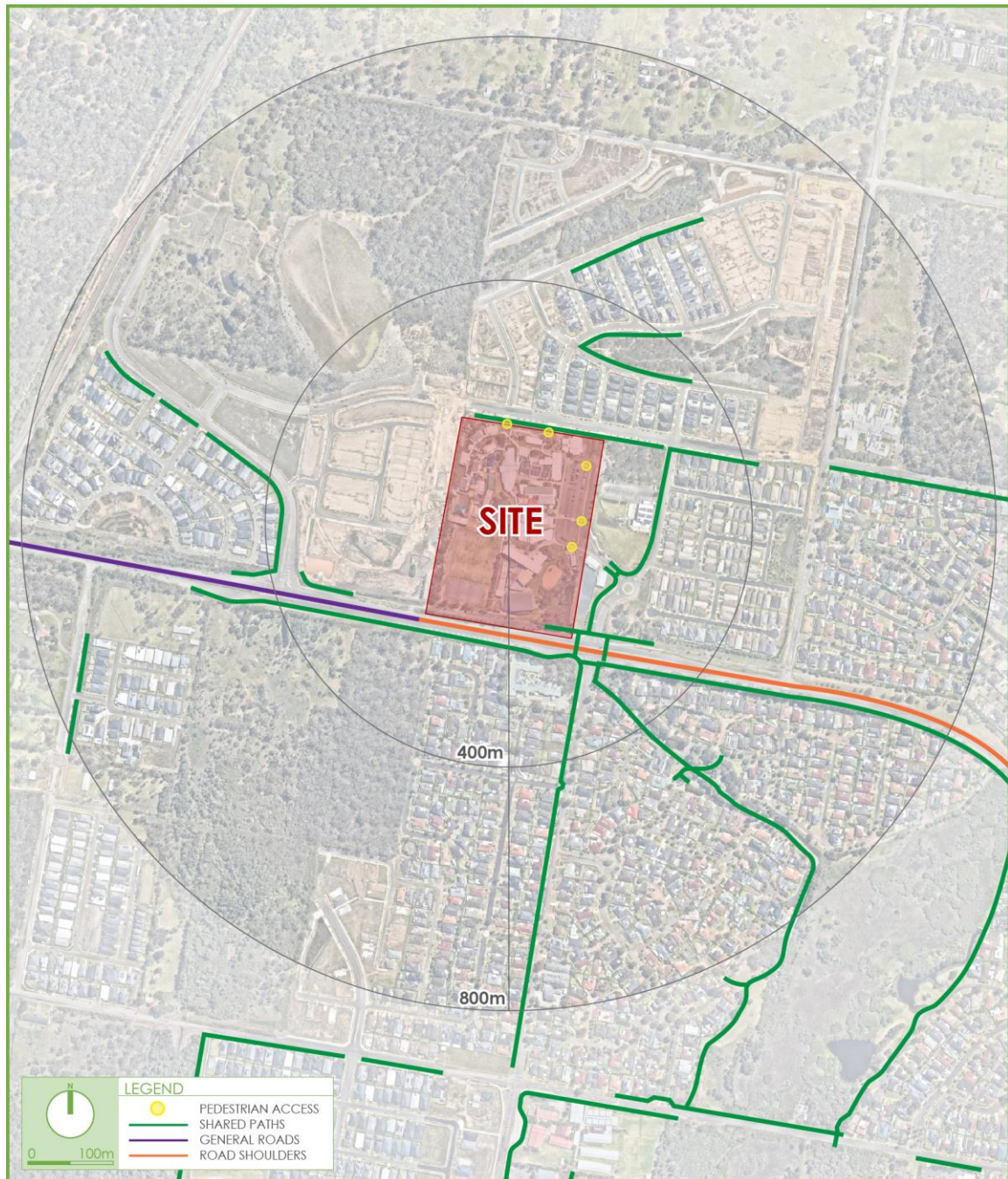


Figure 5: Pedestrian Access and Cycleways



Figure 6: Pedestrian Access and DOPU Areas

4. OVERVIEW OF SITE AND SCHOOL OPERATION

4.1 School Hours of Operation

The school generally operates between the hours of 7:00am and 6:00pm, Monday to Friday. The core school hours are from 8:15am to 3:20pm.

4.2 Projected School Population

The projected staff and student populations proposed under DA/1200/2024 are summarised in **Table 2** and **Table 3**.

Table 2: Projected Student Population under DA/1200/2024

Year	2023	2024	2025	Ultimate Forecast
K	638	103	As per 2024	120
1		102		120
2		86		120
3		91		120
4		90		120
5		92		120
6		96		120
7	177	187	192	92
8	165	176	193	193
9	163	161	180	180
10	168	165	162	162
11	139	137	146	146
12	105	113	117	117

Year	2023	2024	2025	Ultimate Forecast
Total	1555	1599	1650	1830

Table 3: Projected Full-Time-Equivalent (FTE) Staff Population under DA/1200/2024

Staff Roles	2023	2024	2025	Ultimate Forecast
Primary	113	115.5	TBC	TBC
Secondary				
Support	22	22	TBC	TBC
Maintenance	1	1	TBC	TBC
Total	136	138.5	TBC	170

4.3 Parking Areas

The school currently makes provision for a total of 242 off-street car parking spaces as illustrated in **Figure 7**, spread across three (3) car parks, as well as a drop off / pickup zone along Tennison Woods Close as follows:

- At-grade parking area fronting Mataram Road providing a total of 26 spaces;
- At-grade parking area fronting Tenison Wood Close providing a total of 124 spaces (noting two spaces are dedicated to the parish); and
- Unmarked overflow parking area to the west of Mary MacKillop Drive and Tension Wood Close intersection providing a capacity for 80 cars in accordance with its current development consent.
- Drop off / pickup zone along Tennison Woods Close, accommodating 12 vehicles.

It is understood that on-site parking is not currently managed or allocated and generally available to all users.

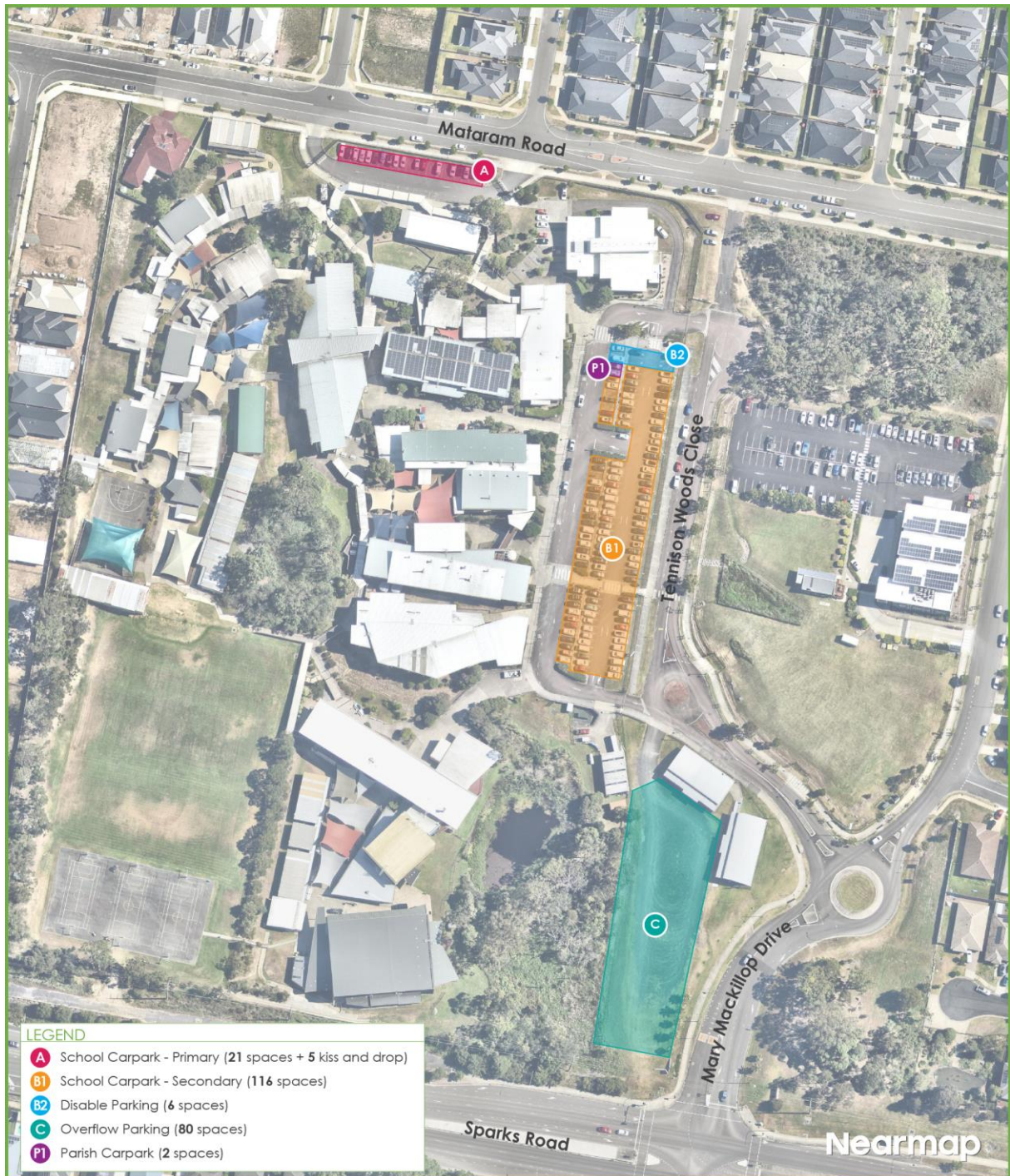


Figure 7: DOPU and Parking Areas

4.4 Servicing and Delivery Areas

Servicing demands for the school are minimal and are limited to materials for educational use and minor kitchen products. Delivery vehicles utilise the existing driveways and all deliveries are undertaken between 8:00am and 5:00pm Monday to Friday outside of peak drop-off/pick-up periods. No deliveries are accepted outside of these hours. It is pertinent to note that the proposed increase in student and staff numbers will not exacerbate existing school servicing requirements, and therefore no changes are proposed under the subject DA.

4.5 Out of School Hours Care (OOSH)

The school offers OOSH with approximately 32 primary school students utilising the service. No changes are proposed to existing OOSH operations under the subject DA.

4.6 Church Operations

Being a catholic school, a church is also provided within the school campus known as “St Mary MacKillop Catholic Church Warnervale”. The mass service times during the weekdays for the church are summarised below:

- Monday at 7:30am
- Tuesday, Thursday and Friday at 9:15am
- Wednesday at 8:45am

These weekday mass services all fall outside of the school peak period and thus have very minor impact on the local road network. It is also pertinent to note that no changes are proposed to the existing church operations under the subject DA.

5. SITE MANAGEMENT

5.1 Layout

The proposed development does not involve the construction of any additional parking areas on site other than sealing and line marking the overflow car park to Council's satisfaction, with reference to be made to **Figure 4** above providing the general layout of the school.

5.2 Pedestrian Routes

The designated DOPU zone along the Tennison Woods Close site frontage provides a direct pedestrian connection to the school via an existing zebra crossing and footpath traversing the Tennison Woods Car Park. Similarly, the DOPU zone within the Mataram Road Car Park is situated immediately adjacent to a dedicated footpath leading directly to the school grounds.

Accordingly, students utilising either DOPU zone are not required to cross any public roads when being dropped off or picked up, ensuring a safe and controlled pedestrian environment.

5.3 Management

5.3.1 Staggered Bell Times

To reduce peak period congestion and improve the efficiency of afternoon pick-up operations, the school proposes to implement staggered bell times for student dismissal. It is noted that staggered bell times are only required for afternoon pick-up as during the morning, student drop-off occurs over a wider period of time this have a much more minor impact on the local roads. Under this arrangement, Primary and High School students will finish at different times, with a suitable interval to spread out the volume of vehicles arriving on-site. The following staggered bell times are recommended for implementation:

➤ Kindergarten – to Year 2	2:45pm
➤ Years 10 - 12	3:00pm
➤ Years 3 - 6	3:15pm
➤ Years 7 - 9	3:30pm

Furthermore, the school acknowledges that some families may have children enrolled in both Primary and High School. To support these families, the school will provide appropriate on-site supervision for students who finish earlier, ensuring they are safely cared for until the later dismissal time. This arrangement allows parents to pick up all their children at the same time without needing to make multiple trips or arrive early. This arrangement will run as an additional service to the OOSH, with supervision provided from 2:45pm for any students that requires supervision till their older siblings are dismissed.

This commitment ensures student welfare is maintained while supporting traffic management outcomes aligned with the OTMP.

5.3.2 Mataram Road Car Park / DOPU Zone

We acknowledge there would be a clear operational benefit in adopting Council's suggestion under Item 1 to reallocate the Mataram Road car parking area exclusively for staff use, as this would effectively eliminate the potential for queuing spillover onto Mataram Road.

However, following extensive consultation with the School and the wider project team, it has been identified that this approach would result in the mixing of young primary school students with high school students during peak periods. The School has raised safety concerns regarding the exposure of younger children, particularly Kindergarten to Year 2 (K-2) to large groups of older students, which may compromise their safe and orderly access to school grounds if the designated drop-off and pick-up (DOPU) area were consolidated.

Taking these concerns into account, the project team supports retaining the Mataram Road car park as the dedicated DOPU area for K-2 students with some casual staff/contractor parking. This arrangement is considered to strike an appropriate balance between addressing Council's queuing concerns and preserving the safety and welfare of younger students.

A DOPU assessment was undertaken, with reference to be made to **Appendix B**, which noted the below:

- The DOPU demand associated with K-2 students is estimated to require accommodation for:
 - 203 vehicles during the morning drop-off period; and
 - 184 vehicles during the afternoon pick-up period.

- A queuing analysis was undertaken based on a conservative assumption of a 5-minute DOPU duration per vehicle. The analysis concluded that 26 dedicated DOPU spaces would be sufficient to accommodate up to 203 vehicles over a one-hour period, with the 98th percentile queue length estimated at nine (9) vehicles.

The 26 car parking spaces within the Mataram Road carpark is therefore proposed to be dedicated to support DOPU for K-2 students only, and can be used as parking during off-peak periods for casual staff, visitors and school contractors, who will arrive after the morning peak period and depart prior to the afternoon peak period. All spaces within the Mataram Road carpark will be cleared by school staff prior to pickup/drop off periods to ensure there is sufficient internal capacity and avoid queues spilling out onto Mataram Road. It is proposed that a staff member will ensure that the parking spaces within the Mataram Carpark are cleared prior to the school peak periods, and will act as a parking marshal to manage the DOPU spaces during the AM and PM peak periods.

5.3.3 Tennison Woods DOPU Zone

All DOPU by parents/guardians will be conducted by utilising the DOPU zone on the Tennison Woods Close frontage which spans 81.5m along the eastern property boundary. The DOPU zone can accommodate approximately 12 vehicles, with the option for vehicles to enter the Tennison Woods Carpark when full. As the DOPU area will be utilised primarily by students in Years 3 and above, parents/guardians expected to remain in their vehicle as their child exits or enters the vehicle from the DOPU zone.

During the morning drop off and afternoon pick-up times, the school will assign a staff member to supervise the zone to ensure vehicles do not dwell for too long to maintain efficient operation. Staff will instruct vehicles to move along if they dwell in the DOPU zone for longer than two (2) minutes and will be directed to loop back using the roundabouts.

All parents/guardians must use the DOPU zone to pick up or drop off their child. The management arrangements for the DOPU will be communicated to parents.

Staff may also instruct parents to move along if queuing nearing Mary Mackillop Drive should occur, parents would be informed of a re-circulation route to arrive back at the DOPU zone should this occur.

Any parent that performs illegal or unsafe manoeuvres when dropping off or picking up their child will be warned in the first instance. Further action by the school may be taken if the parent continues performing the illegal or unsafe manoeuvres.

5.3.4 Bus Stop and Services

Bus services will continue to operate using the internal bus stops during the AM and PM peak periods as per existing. As the bus services will continue to operate according to the same predetermined schedule, there would be no appreciable impact on the ongoing DOPU operations within the school campus as well as local road network.

5.3.5 Servicing Arrangements

Servicing for the site will occur outside of the school operating and DOPU times of 8:00am to 4:00pm and will be conducted within the school site as per the existing arrangements for the site. Any other general servicing for the school development can be conducted within the Tennison Woods carpark, outside of operational hours.

5.3.6 Monitoring Program

A monitoring review program will be implemented whereby every two weeks, staff shall report any safety incidents regarding pedestrian movements or with pick-up and drop-off parking.

It is otherwise anticipated that the school management will respond to any queries and feedback from parents regarding pick-up and drop-off arrangements. Should management propose any changes, these will be formalised in an amended OTMP to be approved by Council.

5.4 Procedure for Parents

All parents are to adhere to the following procedures when picking up students from the school:

5.4.1 Kindergarten to Year 2

- The recommended arrival and departure routes through the surrounding road network are detailed in **Figure 8** and will be distributed to all parents to ensure consistent and safe traffic movement, taking note that the recommended routes show connections between the

school and the TfNSW main road only and there may be a small number of vehicles arriving via Mataram Road from the residential areas north of Sparks Road.

- Children must enter and exit vehicles from the left-hand side only, directly onto the adjoining footpath.
- During pick-up, parents are to move forward where possible and ensure vehicles are parked close to the kerb to maximise efficiency.
- Parents must follow all directions given by school staff on-site to maintain a safe and orderly traffic flow. This may include being instructed to move on if queuing becomes excessive.
- Upon exiting the Mataram Road Car Park, parents must turn left and proceed westbound along Mataram Road, then left onto Cardiff Avenue, left again onto Woongarra Drive, and continue to Sparks Road as per the exit route shown in **Figure 7**.
- U-turns along Mataram Road are strictly prohibited to ensure the safety of pedestrians and to prevent disruption to traffic flow.



Figure 8: Routes to arrive at/depart Mataram Road DOPU zone

5.4.2 Year 3 to Year 12

- The recommended arrival and departure routes via the surrounding road network are shown in **Figure 9** and will be provided to parents to ensure safe and consistent traffic movement, taking note that the recommended routes show connections between the school and the TfNSW main road only and there may be a small number of vehicles arriving via Mataram Road from the residential areas north of Sparks Road.
- Children must enter and exit vehicles from the left-hand side only, directly onto the adjacent footpath.
- During pick-up, parents should move forward when space permits and ensure their vehicle is positioned close to the kerb to maintain efficient use of the zone.
- During DOPU, if the Tennison Woods Close DOPU zone is full, parents will be instructed to enter the Tennison Woods Carpark and utilise the internal DOPU zone.
- Parents must follow all directions issued by on-site staff to ensure the safety of students and the smooth operation of traffic. This may include being asked to move on if excessive queuing occurs.
- U-turns along Tennison Woods Close outside of the designated roundabout are strictly prohibited to avoid traffic disruptions and maintain pedestrian safety.

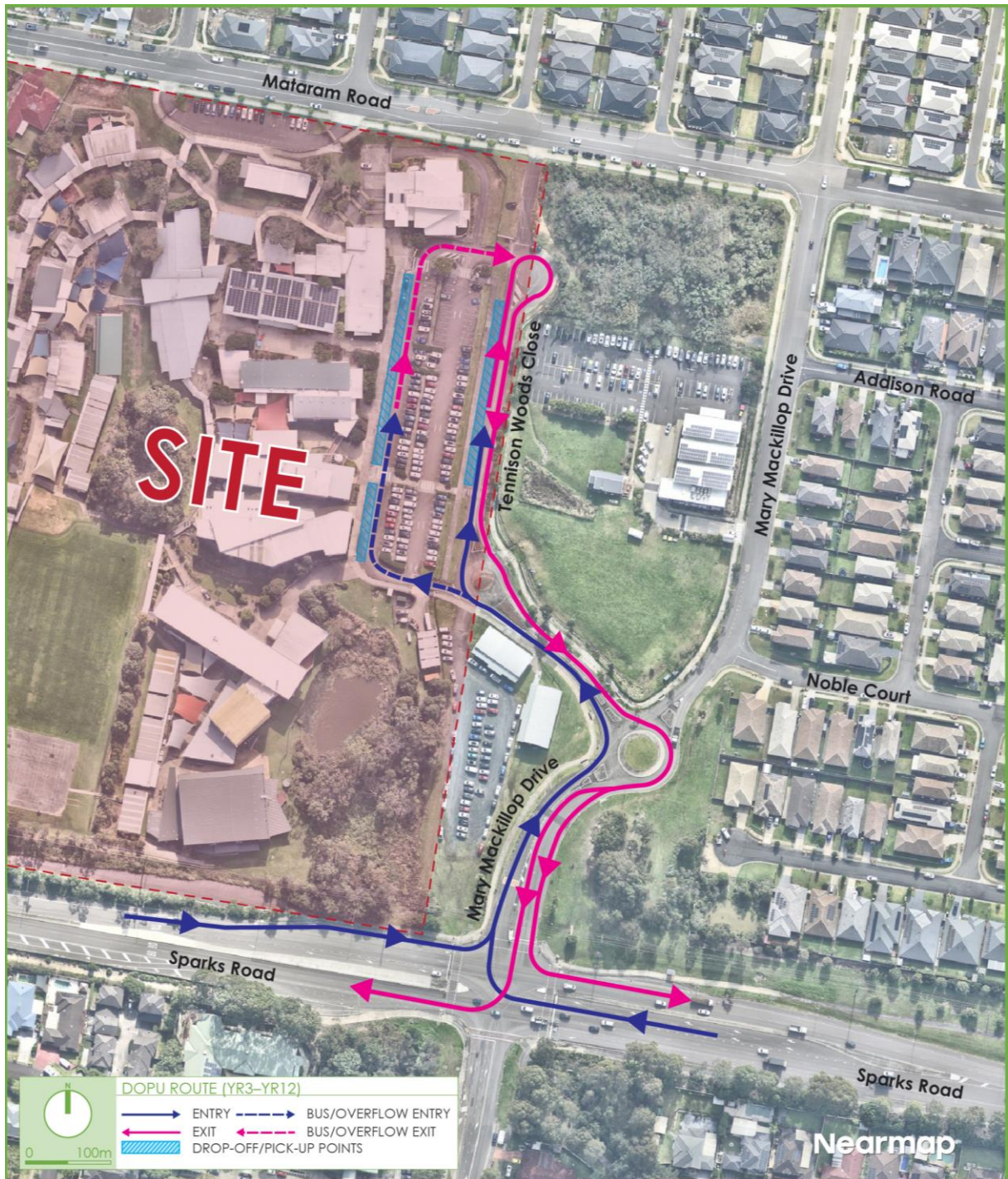


Figure 9: Routes to arrive at/depart Tennison Woods Close DOPU zone

5.4.3 Managing Sibling Dismissals Under Staggered Bell Times

The school will provide appropriate on-site supervision for families with children enrolled in both Primary and High School. Supervision will be provided from 2:45pm to students who finish earlier, ensuring they are safely cared for until the later dismissal time. This arrangement allows parents to pick up all their children at the same time without needing to make multiple trips or arrive early. This commitment ensures student welfare is maintained while supporting traffic management outcomes aligned with the OTMP.

5.5 Contingency Measures

While the intent of this OTMP is to prevent queuing impacts onto the surrounding road network, in the unlikely event that excessive queues occur due to unforeseen circumstances, drivers may be directed by supervising staff to circulate via the route shown in **Figure 10** as a contingency measure.



Figure 10: Circulation Route

6. IMPACTS AND SUSTAINABILITY

6.1 Traffic Impacts

The DOPU area will be internally managed by the school, with particular focus on managing potential queuing during the afternoon pick-up period. Supervising staff will be stationed at the DOPU zone in the Mataram Carpark and along Tennison Woods Close to ensure operations are conducted in accordance with this OTMP, minimising traffic and parking impacts on the surrounding road network and preventing queuing overflow.

The DOPU arrangements will also be communicated to parents, staff, and students to support the safe and efficient operation of the zone and reduce impacts on nearby residents.

Accordingly, the implementation of this OTMP and the nominated DOPU zones is expected to deliver a positive transport planning outcome and represent an improvement over existing conditions.

6.2 Sustainable Transport Measures

6.2.1 Green Travel Plan (GTP) and Travel Access Guide (TAG)

A comprehensive Green Travel Plan (GTP) and Travel Access Guide (TAG) will be prepared in response to a suitable condition of consent, prior to the occupation of the primary General Learning Areas, in accordance with Council and TfNSW recommendations.

The purpose of these documents is to reduce reliance on private vehicles and encourage the use of public transport and active travel modes. The key objectives of the GTP include:

- Promoting the use of sustainable transport options;
- Positioning the school as an environmentally responsible and forward-thinking institution; and,
- Supporting a healthy, active, and sustainable school environment through walking, cycling, and public transport initiatives.

6.2.2 6.2.2 Transport Encouragement Programs

Below are examples of transport encourage programs to be implemented in the GTP.

School Student Transport Scheme (SSTS) “Tap On”

TfNSW operates a campaign educating students about the School Opal Card Terms and Student Codes of Conduct, emphasising the requirement to carry their Opal card and tap on and off for every trip.

Enrolment Pack

The school will provide an Enrolment Pack to all new students, outlining the school's transport policies and travel options. This will include the TAG to better inform students and families of available transport options.

Parent Information Brochure

A brochure (refer Appendix C) has been prepared to describe the operations of the DOPU zone, including recommended routes and procedures to ensure compliance with the OTMP and efficient circulation.

Walking and Riding to School Initiatives

The school may implement events such as “Walk to School Day,” “Ride to School Day,” and a “Walk Part Way” program to promote active transport and support positive behavioural change among students and parents.

Ride2School Day

On this national event day, the school may host supporting activities—such as obstacle courses, healthy breakfasts, bike education or fundraising—to encourage students to walk, ride, skate, or scoot to school, fostering healthier and more sustainable travel habits.

7. MONITORING AND REVIEW

7.1 Data Collection and Monitoring

The DOPU arrangements and the specific procedures for parents to follow when dropping off and picking up their child will be distributed to all parents, staff and students. This will be reiterated to parents through school communications such as newsletters and emails to ensure that this procedure is followed.

This will enable the school to monitor usage of the DOPU zone and determine the average usage. This will allow for the school to conduct a review of the usage of this zone and adjust their management accordingly. All proposed DOPU arrangements, specific procedures, operational measures and civil works as proposed within the OTMP will be implemented prior to increasing student numbers.

7.2 Coordinator Role

The Deputy Principal or other appropriate nominated staff member will undertake the roles of travel coordinator. The role will include responsibility for addressing any complaints that arrive through the complaints management system below. The role will also require an bi-annual internal review to be prepared of the DOPU, and pedestrian operations in the vicinity of the school. The coordinator can recommend additional measures deemed necessary to address any complaints received outside of the bi-annual review process.

7.3 Internal Review Process

It is recommended that the school conduct a review of the OTMP every three (3) months in conjunction with feedback from parents and an observation of the DOPU zone during operation to determine if there are any concerns that need to be addressed. The quarterly (every three months) review is to be undertaken in consultation with Council, with any necessary adjustments made to eliminate queuing along Mataram Road and Mary Mackillop Drive.

In the case that there is a significant issue, the OTMP would have to be updated accordingly to address any changes to the operational management of the DOPU and pedestrian movements in the vicinity of the site.

7.4 Complaints Management System

The travel coordinator (Deputy Principal or other appropriate nominated staff member) will be referred any complaints made by parents, students or staff about any issue relating to staff or students journey to and from school. This will be recorded and followed up with the complainant. Each complaint will need to be investigated and a course of action to address the complaint, which may include changes in procedures. Any changes to the procedures will need to be communicated in an appropriate format and timely manner.

Parents will be provided with contact details of the travel coordinator within the Enrolment pack for students which will be supplied by the school. This will include a link to the school's website whereby parents would be able to lodge any concerns for review by the travel coordinator.

8. CONCLUSION

The management measures outlined in this OTMP are to be implemented immediately upon the approval of DA/1200/2024. This will allow sufficient time for parents to become familiar with the new traffic arrangements, ensuring safe and efficient procedures for both pedestrians and vehicles are well established prior to the commencement of the school expansion.

In summary, the implementation of this OTMP and the nominated DOPU zones is expected to deliver a positive transport planning outcome and represent an improvement over existing conditions.



MACKILLOP
Catholic College
WARNERVALE

91 Sparks Road, Warnervale NSW 2259 PO Box 4367, Lake Haven NSW 2263
P 02 4392 9399 F 02 4392 9499 E smccw@dbb.catholic.edu.au
www.mccwdbb.catholic.edu.au

To Whom It May Concern,

I have reviewed the Operational Traffic Management Plan developed for the MacKillop Catholic College, Warnervale Primary School Redevelopment and endorse the proposed operational strategies.

Signature

Kerry Power

Name

Head of Primary / Acting College Principal
MacKillop Catholic College,
Warnervale

Signature

Father Phillip Thottam

Name

Parish Priest
St Mary of the Cross, MacKillop,
Catholic Church Warnervale

Signature

Paul Lynch

Name

Head of Secondary
MacKillop Catholic College,
Warnervale

APPENDIX A

Reduced Plans

All dimensions to be verified on site and any discrepancies referred to architect for determination. figured dimensions to take precedence over scaled dimensions.

This design including its associated drawings, images, etc. is the intellectual property of stanton dahl & associates pty limited and must not be referenced copied or used without written permission of stanton dahl & associates pty limited.

Rev	Issue	Date
DA01	Issue for DA	04/07/2017
DA02	Issue for DA	11/07/2017
DA03	Amended DA	31/03/2018

Stanton
Dahl
Architects



MacKillop Catholic
College for Catholic
Schools Broken Bay

New Classroom Buildings

91 Sparks Rd,
Woongarrah, NSW

Drawn; TS RW AS MS
Checked; CJH
Plot date; 1/4/2025

Scale:1:750 as noted @ A1

Project No;
2826.22

Drawing No; Revision#;
A0102 DA03

Proposed Campus Plan



APPENDIX B

Kiss and Drop Assessment

Reference: 23.196r04v01

11 July 2025

Catholic Schools Broken Bay
c/- Stanton Dahl Architects
18-20 Oxford Street
EPPING NSW 2121

Attention: Timothy Steele, Associate

**Re: MacKillop Catholic College (DA/1200/2024)
Fee Proposal for Traffic Engineering Consultant Services**

Dear Timothy,

> Preamble

We refer to the subject development and further comments raised in Council's email dated 2 July 2025, which has been forwarded to us for review.

We acknowledge there would be a clear operational benefit in adopting Council's suggestion under Item 1 to reallocate the Mataram Road car parking area exclusively for staff use, as this would effectively eliminate the potential for queuing spillover onto Mataram Road.

However, following extensive consultation with the School and the wider project team, it has been identified that this approach would result in the mixing of young primary school students with high school students during peak periods. The School has raised safety concerns regarding the exposure of younger children, particularly Kindergarten to Year 2 (**K-2**) to large groups of older students, which may compromise their safe and orderly access to school grounds if the designated drop-off and pick-up (**DOPU**) area were consolidated.

Taking these concerns into account, the project team supports retaining the Mataram Road car park as the dedicated DOPU area for K-2 students with some casual staff/contractor parking. This arrangement is considered to strike an appropriate balance between addressing Council's queuing concerns and preserving the safety and welfare of younger students.

Accordingly, the following assessment evaluates the adequacy of the Mataram Road car park to accommodate the following projected future K-2 enrolments under the proposed DOPU arrangement:

- Kindergarten: 120 students
- Year 1: 120 students
- Year 2: 120 students

➤ DOPU Demand Assessment

To estimate the DOPU demand associated with K-2 students, reference is made to the *MacKillop Catholic College Travel Survey* prepared by Urbis (Project Code: P0051241, dated November 2024) – reproduced in full in **Attachment 1**. The survey was conducted over the period from 9 September 2024 to 30 September 2024 (inclusive) and was distributed to students, staff, and parents via an online questionnaire. The survey revealed the following key travel behaviour parameters:

- Approximately 74% of primary school students travel to school by car, while 67% return home by car.
- Of those travelling by car, approximately 57% of primary students travelled alone, 30% travelled with one other student, 11% travelled with two other students, and the remainder travelled with three or more peers.

Accordingly, application of the above travel mode survey results to the projected K-2 student population yields the following DOPU demand as outlined in **Table 1**.

Table 1: Expected K-2 DOPU Demand

School Year	Student No.	% Travelled by Car		No. of Students Travelled by Car	
		AM	PM	AM	PM
Kindergarten	120	74%	67%	89	80
Year 1	120			89	80
Year 2	120			89	80
Total				266	241
Vehicle Occupancy				DOPU Demand	
Travelled Alone			57%	152	137
Travelled with 1 other peer			30%	40	36
Travelled with 2 peers			11%	10	9
Travelled with 3+ peers			2%	1	1
Total				203	184

Based on the results presented in **Table 1**, the DOPU demand associated with K-2 students is estimated to require accommodation for:

- 203 vehicles during the morning drop-off period; and
- 184 vehicles during the afternoon pick-up period.

A queuing analysis has been undertaken based on a conservative assumption of a 5-minute DOPU duration per vehicle. The analysis concluded that 26 dedicated DOPU spaces would be sufficient to accommodate up to 203 vehicles over a one-hour period, with the 98th percentile queue length estimated at nine (9) vehicles.

In practical terms, this indicates that during the peak DOPU period, nine (9) of the 26 available spaces within the Mataram Road car park are expected to be occupied 98% of the time. The remaining 15 spaces would therefore provide ample capacity to absorb any occasional overspill, whether due to longer than expected dwell times or other unforeseen circumstances.

Accordingly, this demonstrates that the proposed DOPU arrangement would adequately service both the morning and afternoon peak periods. The detailed queuing analysis is provided in **Attachment 2**.

An Operational Traffic Management Plan (OTMP) will also be prepared separately to guide parents to the appropriate drop-off and pick-up areas. The OTMP will support the effective operation of the DOPU arrangement, minimise traffic impacts, and ensure that vehicle queuing does not extend onto Mataram Road.

➤ Conclusion

Based on the assessment and findings outlined in this report, it has been determined that the Mataram Road car park providing 26 dedicated DOPU spaces will have sufficient capacity to cater for the projected K-2 DOPU demand.

I trust the advice provided in this letter satisfies your requirements and request that you contact the undersigned should you have any queries or require any further information. In the event that any concerns remain, we request an opportunity to discuss these with the consent authorities prior to any determination being made.

Yours faithfully,

Traffic



Thomas Yang
Executive Engineer

Encl: Attachment 1 – MacKillop Catholic College Travel Survey
Attachment 2 – DOPU Queueing Analysis

ATTACHMENT 1

MacKillop Catholic College Travel Survey

MACKILLOP CATHOLIC COLLEGE TRAVEL SURVEY

Draft Report
Prepared for MacKillop Catholic College, Warnervale
November 2024

This report is dated **04/11/24** and incorporates information and events up to that date only and excludes any information arising, or event occurring, after that date which may affect the validity of Urbis Ltd's (Urbis) opinion in this report. Urbis prepared this report on the instructions and for the benefit only, of **MacKillop Catholic College, Warnervale** (Instructing Party) for the purpose of a **Travel Survey**(Purpose) and not for any other purpose or use. Urbis expressly disclaims any liability to the Instructing Party who relies or purports to rely on this report for any purpose other than the Purpose and to any party other than the Instructing Party who relies or purports to rely on this report for any purpose whatsoever (including the Purpose).

In preparing this report, Urbis was required to make judgements which may be affected by unforeseen future events including wars, civil unrest, economic disruption, financial market disruption, business cycles, industrial disputes, labour difficulties, political action and changes of government or law, the likelihood and effects of which are not capable of precise assessment.

All surveys, forecasts, projections and recommendations contained in or made in relation to or associated with this report are made in good faith and on the basis of information supplied to Urbis at the date of this report. Achievement of the projections and budgets set out in this report will depend, among other things, on the actions of others over which Urbis has no control.

Urbis has made all reasonable inquiries that it believes is necessary in preparing this report but it cannot be certain that all information material to the preparation of this report has been provided to it as there may be information that is not publicly available at the time of its inquiry.

In preparing this report, Urbis may rely on or refer to documents in a language other than English which Urbis will procure the translation of into English. Urbis is not responsible for the accuracy or completeness of such translations and to the extent that the inaccurate or incomplete translation of any document results in any statement or opinion made in this report being inaccurate or incomplete, Urbis expressly disclaims any liability for that inaccuracy or incompleteness.

This report has been prepared with due care and diligence by Urbis and the statements and opinions given by Urbis in this report are given in good faith and in the belief on reasonable grounds that such statements and opinions are correct and not misleading bearing in mind the necessary limitations noted in the previous paragraphs. Further, no responsibility is accepted by Urbis or any of its officers or employees for any errors, including errors in data which is either supplied by the Instructing Party, supplied by a third party to Urbis, or which Urbis is required to estimate, or omissions howsoever arising in the preparation of this report, provided that this will not absolve Urbis from liability arising from an opinion expressed recklessly or in bad faith.

Urbis staff responsible for this report were:

Director	Kasia Balsam
Assistant Transport Planner	Jonno Tims

Project code	P0051241
Report number	1

© Urbis Ltd
ABN 50 105 256 228
All Rights Reserved. No material may be reproduced without prior permission.
You must read the important disclaimer appearing within the body of this report.

ACKNOWLEDGEMENT OF COUNTRY

Urbis acknowledges the Traditional Custodians of the lands we operate on.

We recognise that First Nations sovereignty was never ceded and respect First Nations peoples continuing connection to these lands, waterways and ecosystems for over 60,000 years.

We pay our respects to First Nations Elders, past and present.

The river is the symbol of the Dreaming and the journey of life. The circles and lines represent people meeting and connections across time and space. When we are working in different places, we can still be connected and work towards the same goal.

Title: Sacred River Dreaming
Artist: Hayley Pigram
Darug Nation
Sydney, NSW



CONTENTS

Introduction and Background	5
Home Locations	7
Student Travel Behaviour and Opportunities	9
Staff Travel Behaviours and Opportunities	12

01 THE PROJECT AND SITE

THE SITE

MacKillop Catholic College is located in Woongarra approximately 32 km north of Gosford and depicted in **Figure 1**.

The site is accessible from Mary MacKillop Drive via Sparks Road and from Mataram Road to the north. The land to the immediate northeast of the site has recently been rezoned to accommodate residential uplift. Mataram Road is partially incomplete and currently terminates approximately 460 m to the west of the site while development is carried out.

THE LOCALITY

The area surrounding the site forms part of Precinct 4 – Warnervale Local Centre which is set out in the *Greater Warnervale Structure Plan 2021-2041* (2024). This precinct is set to form part of a mixed-use local centre that facilitates active travel to the centre and Warnervale Railway Station.

Three (3) other schools are within a 1.5 km catchment of MacKillop Catholic College. These include Woongarra Public School, Warnervale Public School and Porters Creek Public School.

THE PROPOSAL

Based on the brief provided to Urbis, our understanding of the project is as follows:

- Collection and analysis of travel surveys including mode and behavioural characteristics.
- Analysis to be completed in a manner appropriate for review by the client and to which is directly transferrable to a future Green Travel Plan for the school.

Figure 1: Site location



Source: Urbis

01 TRAVEL SURVEY BACKGROUND

BACKGROUND

To better understand the existing conditions of traffic and transport patterns at MacKillop Catholic College the school engaged Urbis to conduct a travel survey. This survey ran from 09.09.24 to 30.09.24 (inclusive) and was distributed to students, staff members and parents.

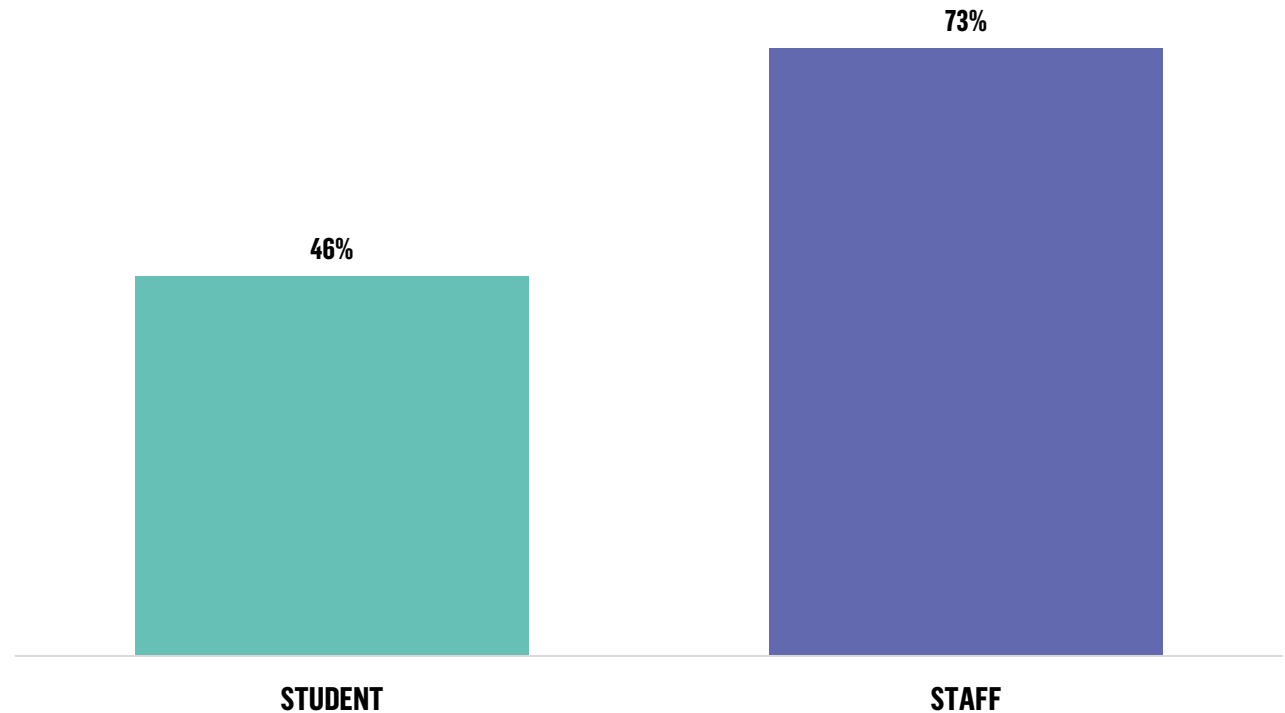
The survey was conducted in the form of an online questionnaire with its corresponding data on the school's baseline conditions being essential to understand in framing future works and upgrades to the school's campus.

COMPLETION RATES

Figure 2 depicts the completion rates for the travel survey as a percentage of the total school population. This includes:

- Students – 691 respondents (46%)
- Staff – 120 respondents (73%)

Figure 2: Survey Completion rates



02 PRIMARY AND SECONDARY COHORT HOME LOCATIONS

BACKGROUND

Students at MacKillop Catholic College predominately reside in the Central Coast and Lake Macquarie Council areas. The suburbs with the highest proportion of students who attend the school are Hamilton South, Woodrising and Woongarra.

Figure 3 visually represents this and also shows a trend in home locations for the two cohorts. More students in Years 7-12 live closer to the school than primary students, with Years K-6 showing high pockets of dispersion around the Greater Newcastle area. These trends are an opportunity which is expanded upon later in the report.

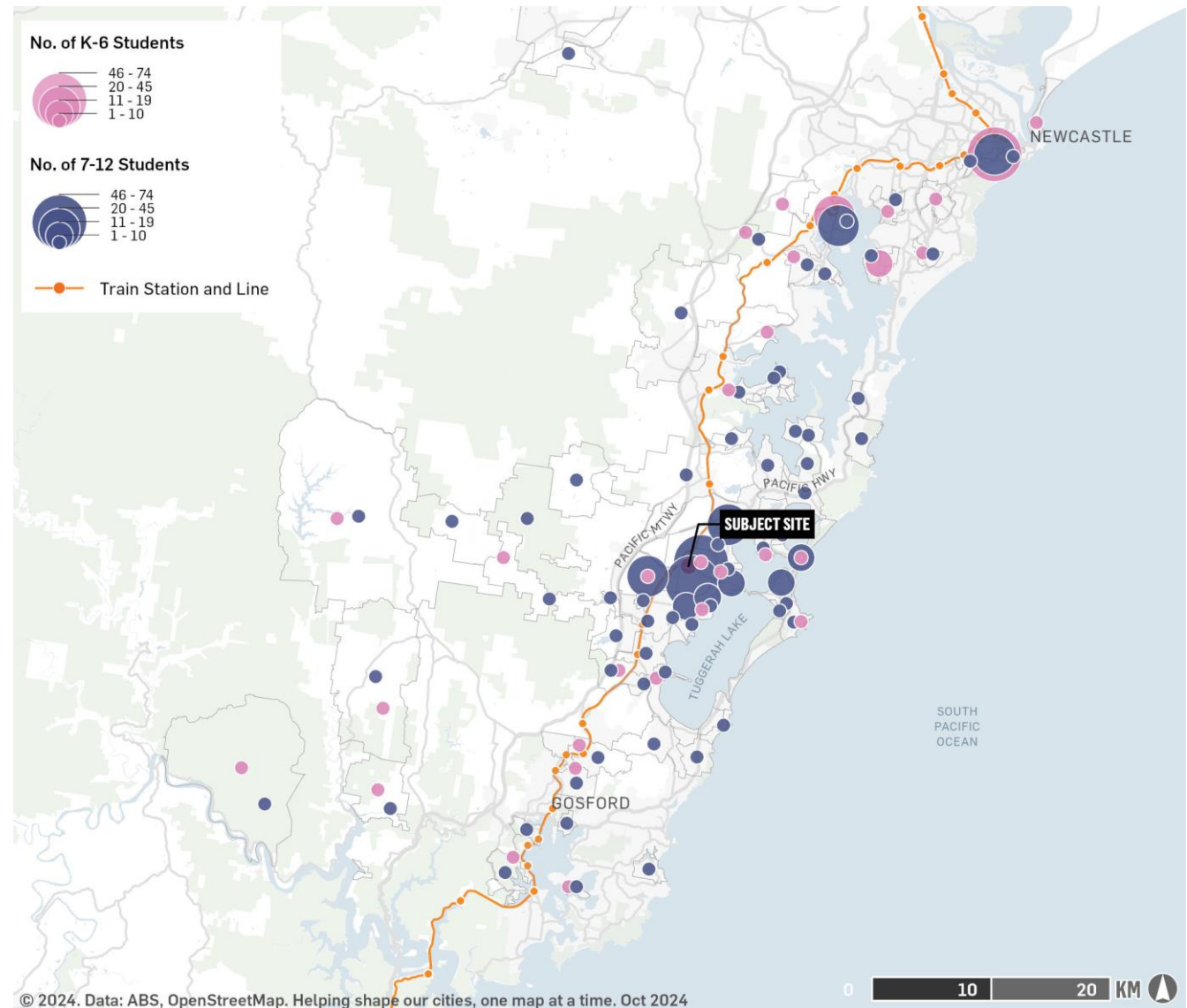
YR K-6 HOME LOCATIONS

Suburb	Percent of Students
Hamilton South	28%
Woodrising	24%
Valentine	8%
Blue Haven	5%
Kulnura	4%

YR 7-12 HOME LOCATIONS

Suburb	Percent of Students
Woongarra	15%
Hamlyn Terrace	13%
Woodrising	8%
Blue Haven	7%
Hamilton South	6%

Figure 3: Primary and secondary student home locations



Source: Urbis

02 STAFF COHORT HOME LOCATIONS

BACKGROUND

Survey data results show that staff members' home locations are spread across a large area, mostly between Central Coast and the Lake Macquarie Region.

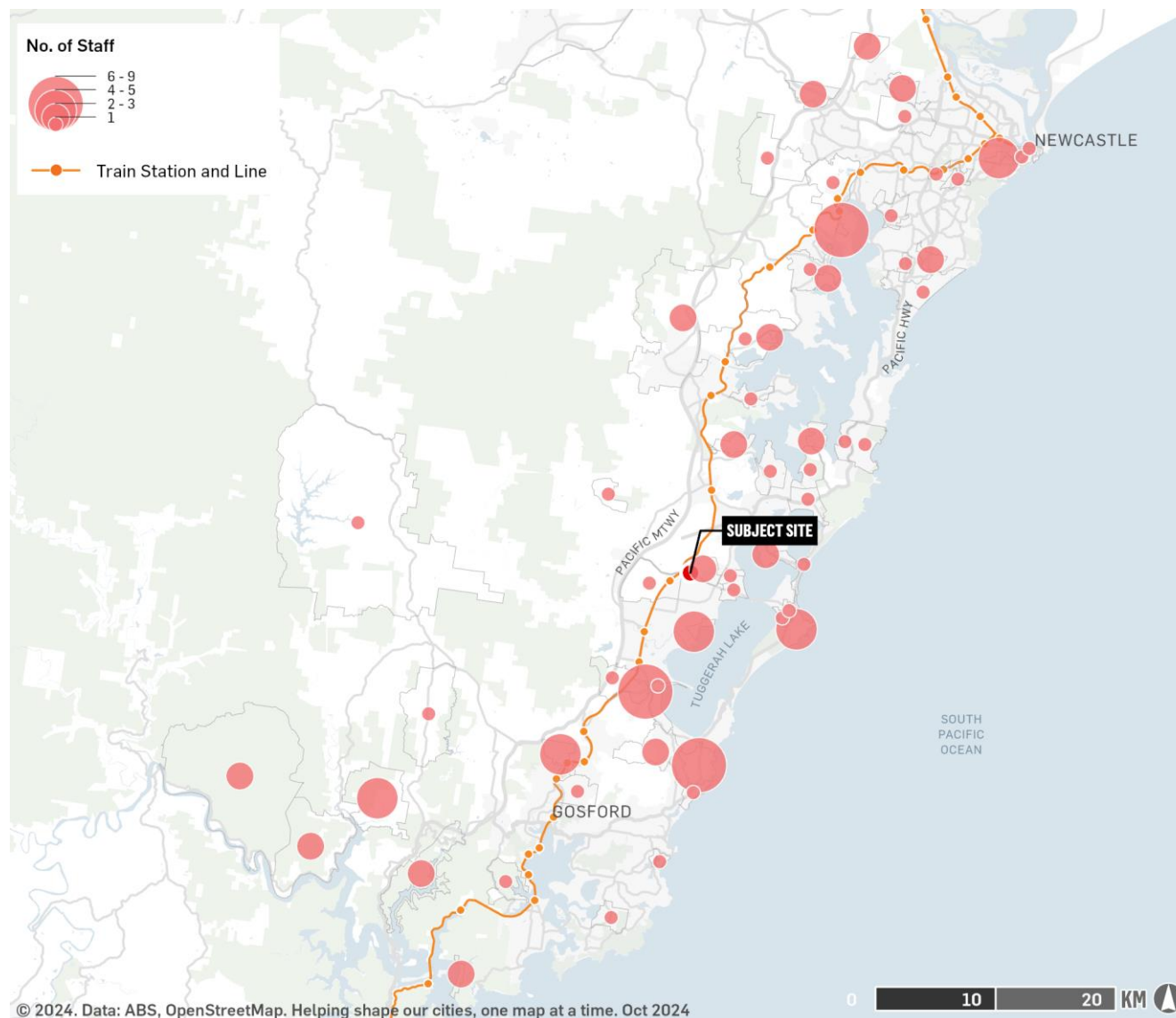
The highest number of staff members live in Berkeley Vale followed by Bateau Bay.

Although the home location distribution is wide across the region, as shown in **Figure 4** there are areas where groups of staff members live near each other. Facilitating the uptake of carpooling could allow more staff members to commute to and from school more sustainably whilst still being time efficient.

STAFF HOME LOCATIONS

Suburb	Percent of Students
Berkeley Vale	8%
Bateau Bay	7%
Woodrising	6%
Hamilton South	4%
Niagara Park	4%

Figure 4: Staff home locations



Source: Urbis

03 HOW DO STUDENTS TRAVEL TO AND FROM SCHOOL

OVERVIEW

Using a car as a passenger to and from school is the most common form of travel for students in Years K-6, as illustrated in **Figure 5**.

Survey results show that there is a 7% decrease in being driven home from school compared to travelling to school. This change aligns with an afternoon increase in the use of the public school bus. This indicates that parents/caregivers may drop students to school via car on their way to work, but are happy for their children to catch the bus home.

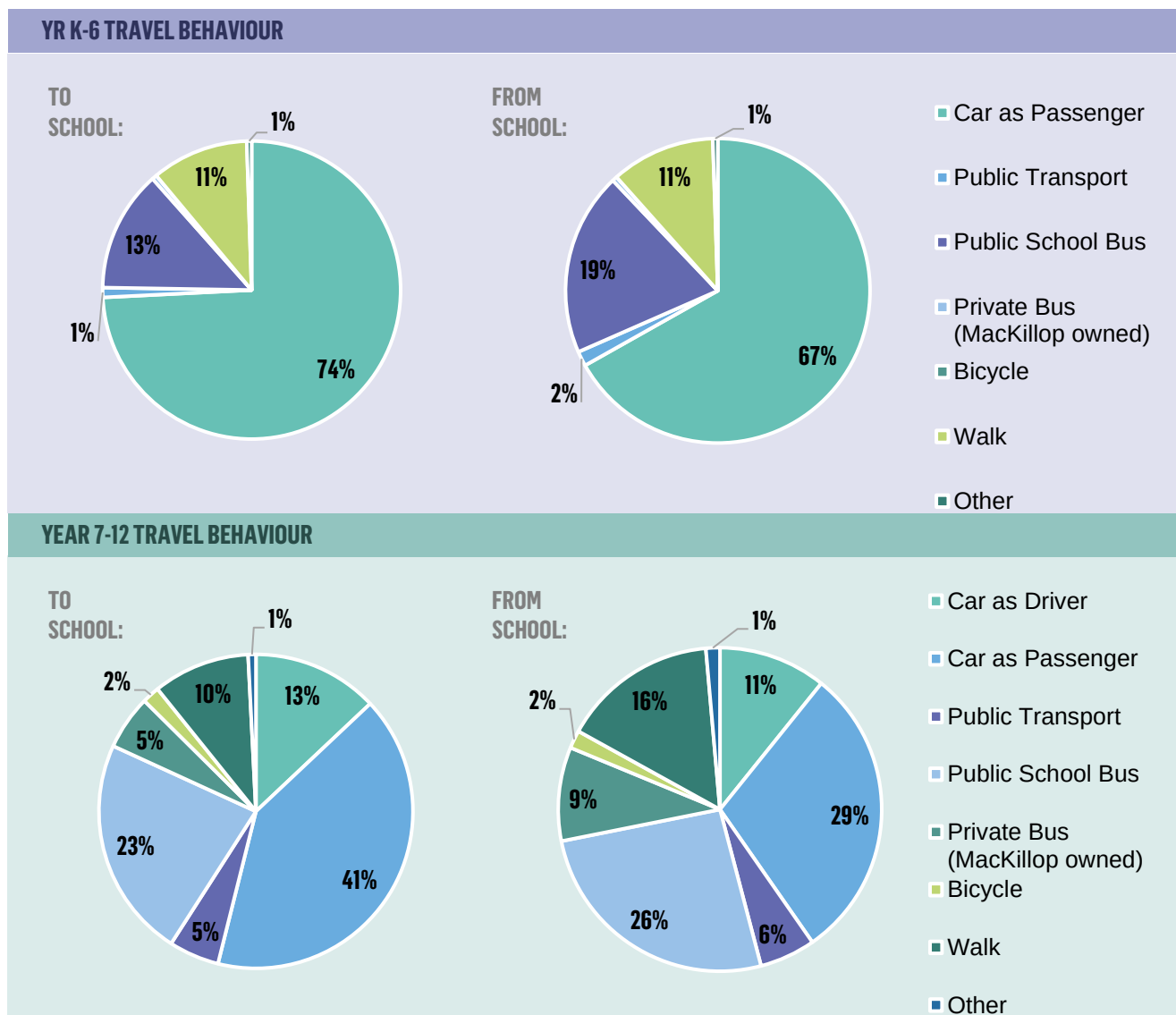
For students in Years 7-12, survey results show a much more diverse range of travel behaviour across different modes of transport. Car use is still the most common form of travel to and from school at 41% and 29% respectively. However, similar to the primary cohort, this mode of travel sees a significant decrease in use of 22% when commuting from school. The use of the public school bus, private bus (MacKillop owned) and walking all increase in the afternoon in line with this trend.



INSIGHT

Between cohorts, there is a general acceptance of public school bus use. Further investigation by the school with TfNSW around bus frequency and routes could help to close the gap between private car use and public transport.

Figure 5: Student and Staff travel behaviour to and from school



03 STUDENT CAR USAGE IN MORE DETAIL

YEAR K-6

To better understand the breakdown of those who travel to school by car, the survey asked if they commute together with their peers or by themselves.

The majority of students in Year K-6 arrived at MacKillop College with just their parent (57%). This was followed by 30% of students who travel to school with one other peer, shown in **Figure 6**.

Whilst these results indicate a high proportion of single student car-based trips, the survey also shows that there is opportunity for positive change.

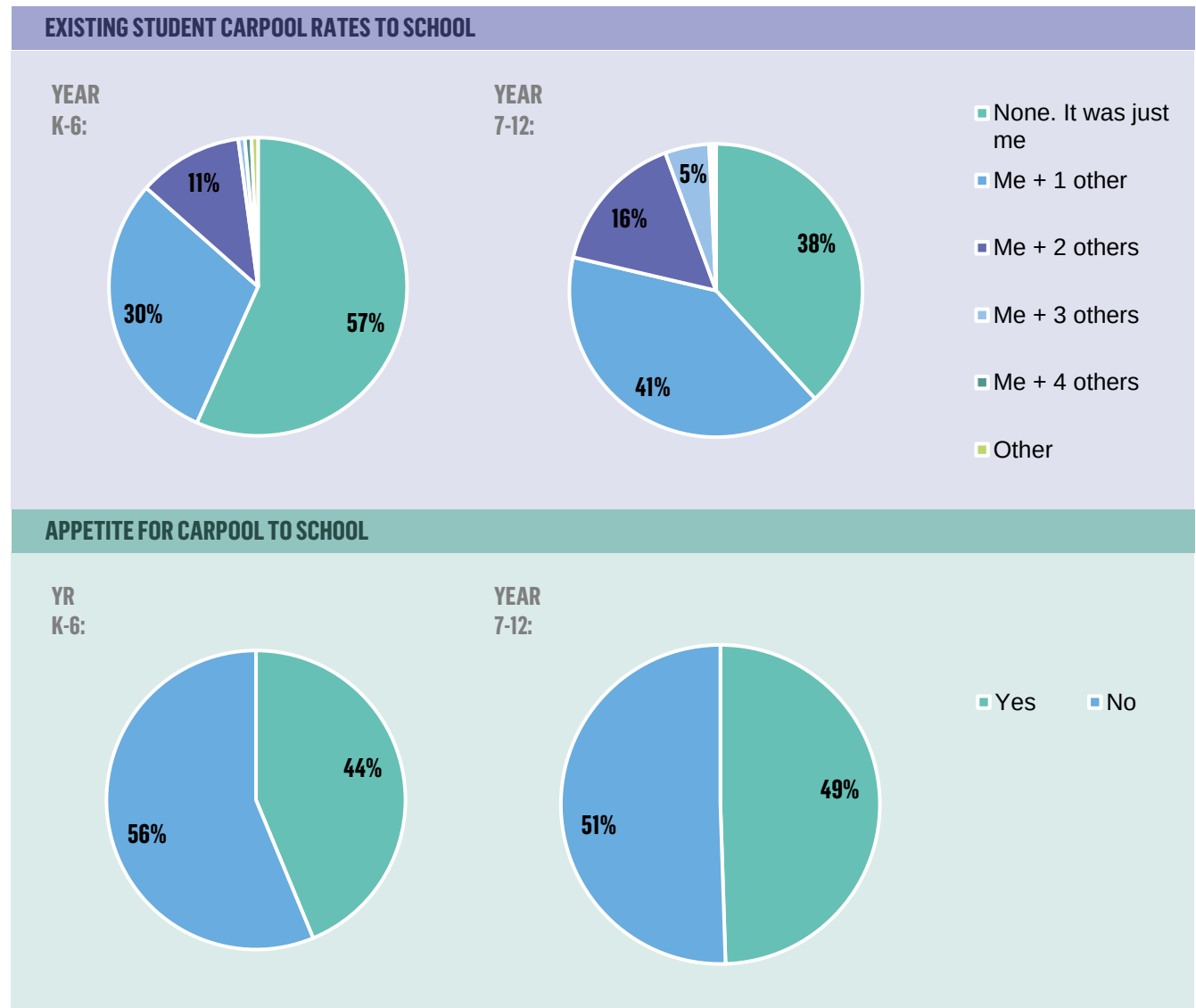
Of those parents/caregivers who drove their child to school, 44% indicated that they would be open to carpooling with other families. With reference to clustered home locations on page 7, the school can help to inform parents of other families who are interested in carpooling and encourage this uptake in more sustainable travel methods.

YEAR 7-12

The travel survey indicated that for those who drove to school in Year 7-12 the majority of cars contained two students (41%). This was followed by 38% who drove without any other school peers, and 16% who took themselves and two other students to school with them.

Similar to the primary cohort, students in secondary school that commute by car showed a high interest (49%) in carpooling. There is potential for the school to reduce the number of cars arriving at the school by helping students find peers to travel with.

Figure 6: Existing rates and future potential for carpool to school



03 OPPORTUNITIES TO INCREASE SUSTAINABLE TRAVEL FOR STUDENTS

BACKGROUND

The travel survey specifically asked students who commute via car why they chose this form of transport. **Figure 7** illustrates the responses received, which helps gaining better insight into the reasons behind this travel behaviour.

Parents, who answered on behalf of their primary school children, noted that young age was a strong factor influencing the use of active and public transport.

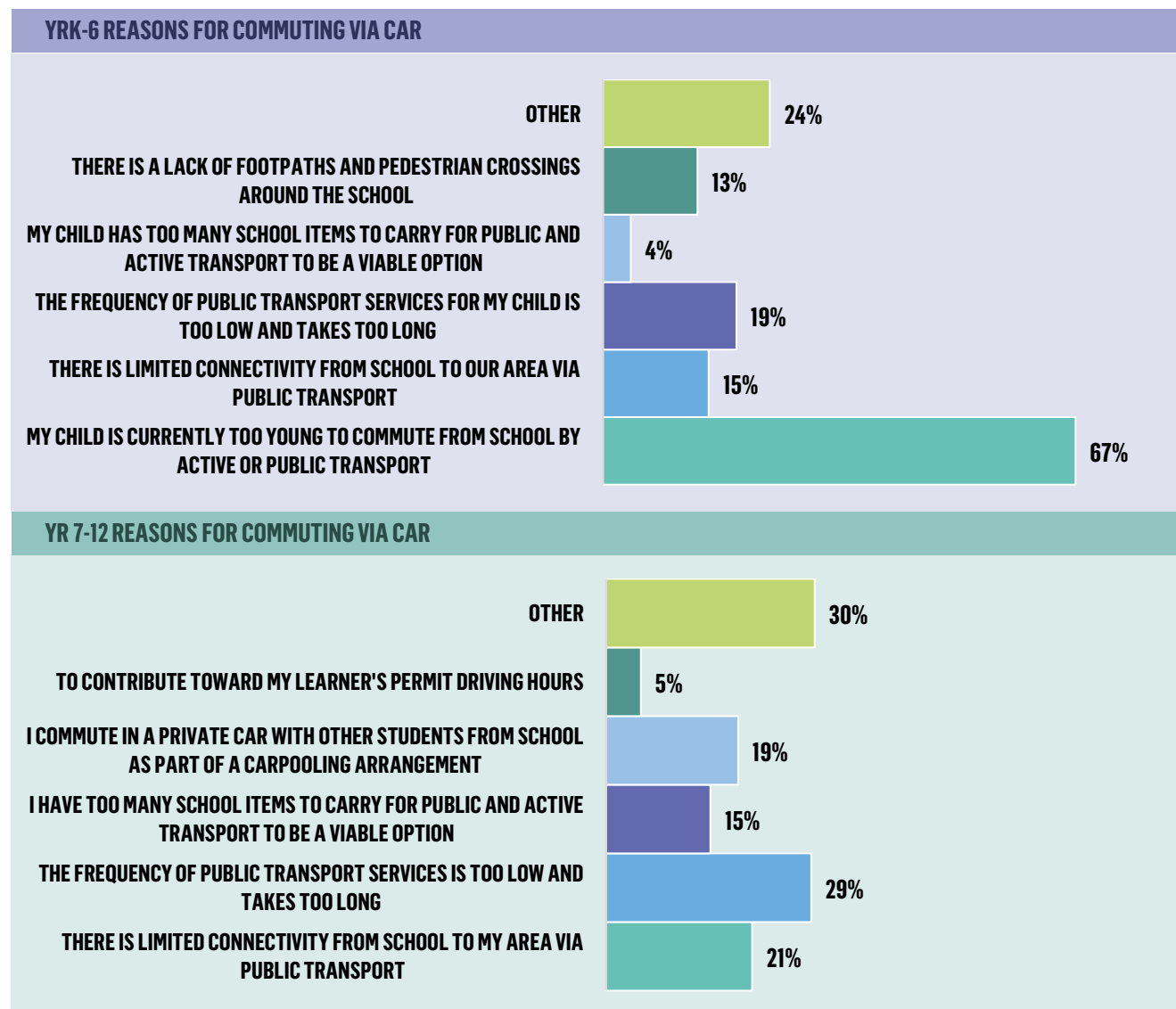
Between cohorts, the limited frequency and connectivity of public transport services was a significant reason why students preferred to travel via car. This was largely mirrored in the “Other” response option for Year 7-12 who mentioned that car use was convenient and an easy travel choice.

OPPORTUNITIES

The following opportunities have been developed to encourage more sustainable travel behaviours:

- Consultation with TfNSW to increase bus frequency and coverage.
- Review of bell times, and if these are offset, align to the existing bus services.
- Review opportunities for students to carry less items – implement storage within the school.
- A review of MacKillop’s Private Bus route with reference to the home location of students to bridge potential gaps in connectivity both to and from school.
- The establishment of a ‘walking bus’ group which requires supervising adults to walk with students from neighbouring communities, increasing overall safety and accessibility to active travel.

Figure 7: Primary and Secondary Cohort reasons for travelling via car



04 HOW DO STAFF TRAVEL TO AND FROM SCHOOL

CURRENT BEHAVIOUR

Staff at MacKillop Catholic College predominately drive in a car to and from school. **Figure 8** shows the prominence of this travel behaviour where no staff recorded commuting via public or active modes of transport.

Whilst the prominence of car-centric travel is high, the distance of staff home locations to the school (shown in **Figure 4**) is the most likely reason for this. However, given that many staff live within the same suburbs, there may be potential to encourage carpooling – a more sustainable travel behaviour that is considerate of the distance that staff travel to and from school.

APPETITE FOR CARPOOLING

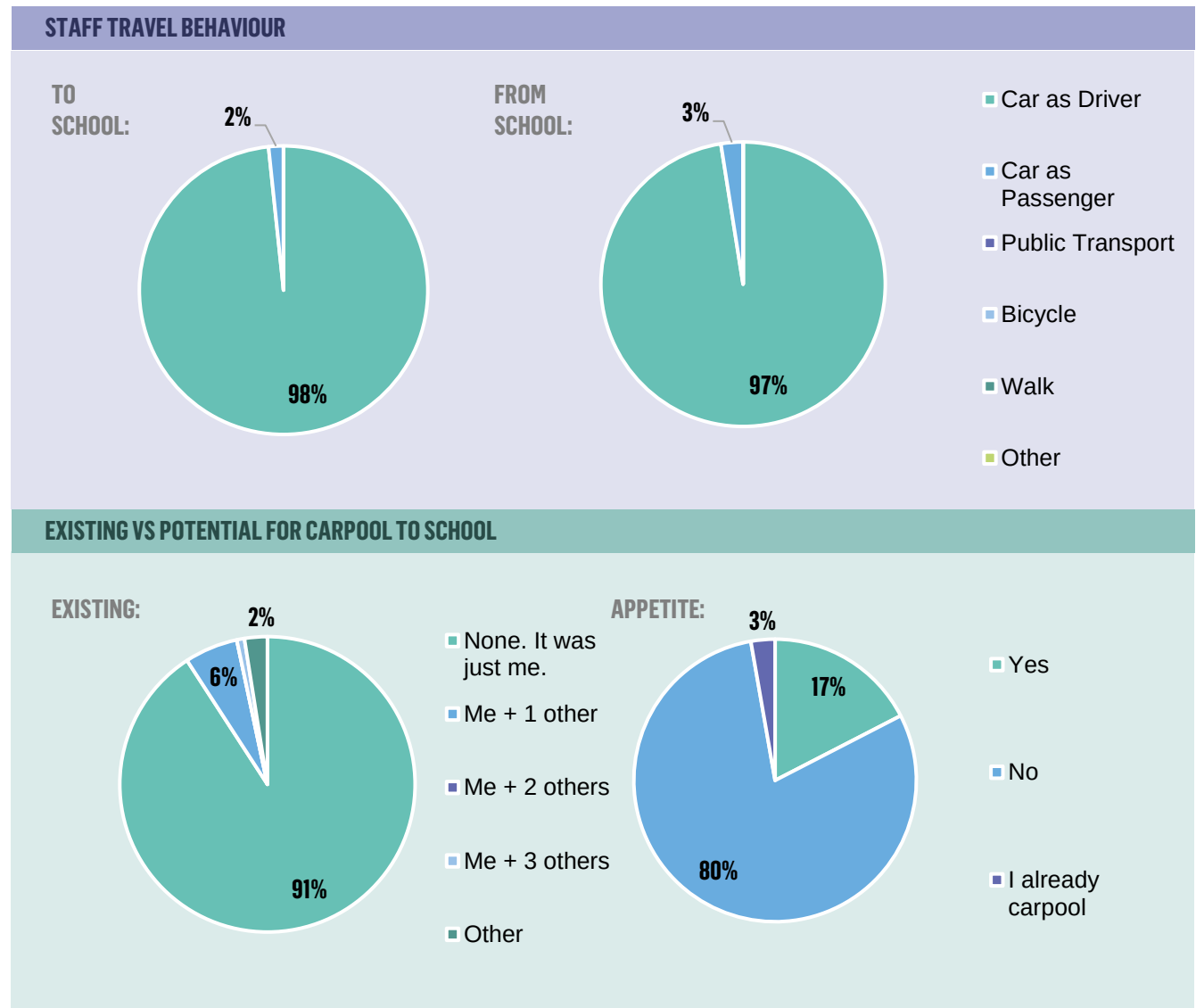
Currently, 6% of staff recorded that they travelled to school in a carpool arrangement. With 17%, the appetite for this travel behaviour is higher than the existing rate, which provides an opportunity to reduce the number of cars around the school.



INSIGHT

For those interested in carpooling, the creation of a registration list that specifies desired end destinations could streamline this travel option, making it easier and more efficient for staff to travel with people who live near each other.

Figure 8: Staff travel behaviour and appetite for carpooling



04 OPPORTUNITIES TO INCREASE SUSTAINABLE TRAVEL FOR STAFF

BACKGROUND

Similar to the student cohort, the travel survey sought to gain insight into why staff members chose to commute via car. **Figure 9** illustrates that the majority (75%) have other commitments after school, which requires them to need a car. Responses around public transport connectivity were similar to the student cohort, with staff noting that connectivity and frequency of current services were low.

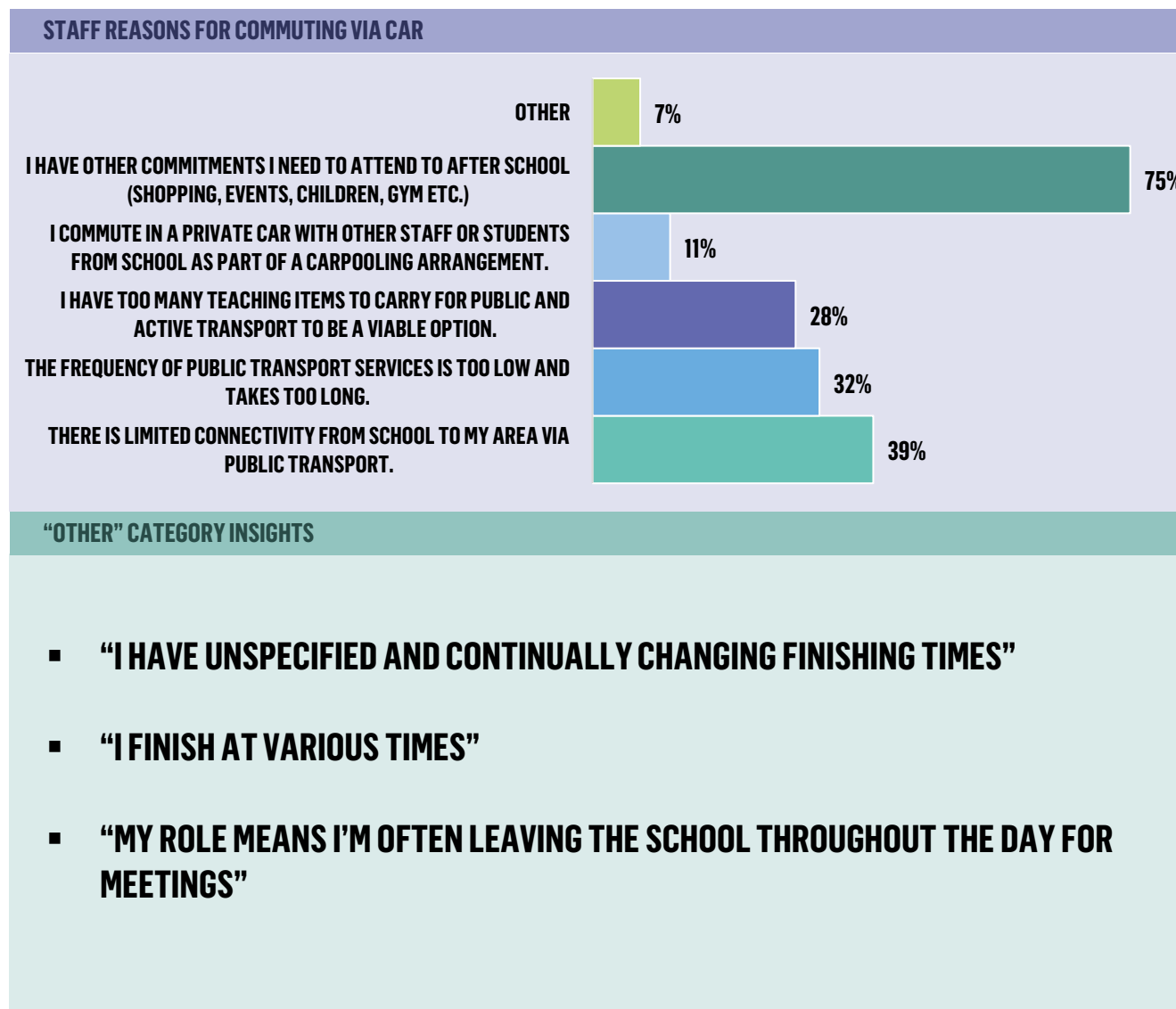
As well as this, 28% recorded that the amount of teaching items they are required to bring to school prevents them from being able to use public and active transport.

OPPORTUNITIES

The following opportunities have been developed to encourage more sustainable travel behaviours for staff members:

- Provide access to a business car share subscription that can be used for staff to attend offsite meetings and personal emergency situations.
- Review of items that teachers are required to carry to and from school and/or provide dedicated storage spaces for these at the school.
- Align internal meetings and training, and group staff requirements to better assist teachers in commuting together.
- Consult with TfNSW and/or the MacKillop Private Bus to align schedule and services with staff finishing hours.

Figure 9: Staff reasons for traveling via car





ATTACHMENT 2

DOPU Queueing Analysis

MacKillop Catholic College
PM Random Arrivals System for Cars over an hour

Vehicle Group Arrivals (veh/hr)	203
Pick up duration (sec)	300
Number of spaces	26
Total Average Time (sec)	11.53846

Queuing Theory Factors	
average arrival rate (r)	203.00000 *r=(veh/hr)
average service rate (s)	312.00000 *s=3600/(Total Average Time)
utilisation factor (p)	0.65064 *p=r/s
mean queue (E(m))	1.21174 *E(m)=(p/(1-p))-p

Probability of Vehicles in System (P(n))		*P(n)=(1-p)p^n
No. Vehicle Groups in System (n)	Probability (%)	
0	34.9%	34.9%
1	22.7%	57.7%
2	14.8%	72.5%
3	9.6%	82.1%
4	6.3%	88.3%
5	4.1%	92.4%
6	2.7%	95.1%
7	1.7%	96.8%
8	1.1%	97.9%
9	0.7%	98.6%
10	0.5%	99.1%
11	0.3%	99.4%
12	0.2%	99.6%
13	0.1%	99.8%
14	0.1%	99.8%
15	0.1%	99.9%
16	0.0%	99.9%
17	0.0%	100.0%
18	0.0%	100.0%
19	0.0%	100.0%
20	0.0%	100.0%